



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2006-23706; Directorate Identifier 2006-NE-03-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; Honeywell International Inc. Turboprop Engines**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to supersede airworthiness directive (AD) 2015-12-04, which applies to all Honeywell International Inc. (Honeywell) TPE331-1, -2, -2UA, -3U, -3UW, -5, -5A, -5AB, -5B, -6, -6A, -10, -10AV, -10GP, -10GT, -10P, -10R, -10T, -10U, -10UA, -10UF, -10UG, -10UGR, -10UR, -11U, -12JR, -12UA, -12UAR, and -12UHR turboprop engines with certain Woodward fuel control unit (FCU) assemblies, installed. AD 2015-12-04 currently requires initial and repetitive dimensional inspections of the affected fuel control drives and insertion of certain airplane operating procedures into the applicable flight manuals. This proposed AD would correct compliance requirements and relax the inspection interval. We are proposing this AD to prevent failure of the fuel control drive, damage to the engine, and damage to the airplane.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Honeywell International Inc., 111 S. 34th Street, Phoenix, AZ 85034-2802; phone: 800-601-3099; Internet: <https://myaerospace.honeywell.com/wps/portal>. You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2006-23706.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2006-23706; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Joseph Costa, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712-4137; phone: 562-627-5246; fax: 562-627-5210; email: [joseph.costa@faa.gov](mailto:joseph.costa@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

We invite you to send any written relevant data, views, or arguments about this NPRM. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2006-23706; Directorate Identifier 2006-NE-03-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this NPRM. We will consider all comments received by the closing date and may amend this NPRM because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this NPRM.

### **Discussion**

On June 5, 2015, we issued AD 2015-12-04, Amendment 39-18177, (80 FR 34534, June 17, 2015) (“AD 2015-12-04”), for all Honeywell International Inc. TPE331-1, -2, -2UA, -3U, -3UW, -5, -5A, -5AB, -5B, -6, -6A, -10, -10AV, -10GP, -10GT, -10P, -10R, -10T, -10U, -10UA, -10UF, -10UG, -10UGR, -10UR, -11U, -12JR, -12UA, -12UAR, and -12UHR turboprop engines with certain Woodward FCU assemblies, installed. AD 2015-12-04 requires initial and repetitive dimensional inspections of the affected fuel control drives and insertion of certain airplane operating procedures into the applicable flight manuals. AD 2015-12-04 resulted from reports of loss of the fuel control drive, leading to engine overspeed, overtorque, overtemperature, uncontained rotor failure, and asymmetric thrust in multi-engine airplanes. We issued AD 2015-12-04 to prevent failure of the fuel control drive, damage to the engine, and damage to the airplane.

### **Actions Since AD 2015-12-04 Was Issued**

We received a request to change compliance time from 50 hours to 100 hours for fuel control part numbers affected by paragraph (e)(2) of this AD. We concluded that because the number of fuel control drives in-service that had not completed an initial inspection was small, changing the compliance time to 100 hours would not add additional risk of fuel control drive failure and, therefore, is appropriate.

We also received reports that some airplanes do not use the condition lever to shut down the engine, and so could not comply with the AD. We concluded that references to a condition lever were inappropriate. This proposed AD eliminates references to a condition lever.

### **Related Service Information**

We reviewed Honeywell Operating Information Letter (OIL) OI331-12R6, dated May 26, 2009, for multi-engine airplanes; and OIL OI331-18R4, dated May 26, 2009, for single-engine airplanes and Honeywell TPE331 maintenance manuals. The service information describes procedures for conducting fuel control drive inspections and engine shutdown.

### **FAA's Determination**

We are proposing this NPRM because we information evaluated all the relevant and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

### **Proposed AD Requirements**

This NPRM would increase the inspection time limits for the FCU assembly from 50 to 100 hours-in-service in Compliance paragraph (e)(2) of this AD. This NPRM would also delete reference to the condition lever.

### **Costs of Compliance**

We estimate that this proposed AD affects 2,250 engines installed on airplanes of U.S. registry. We also estimate that it would take about 8 hours per engine to comply with this proposed AD. The average labor rate is \$85 per hour. We estimate that 10% of affected engines will require FCU assembly stub shaft replacement and fuel pump or fuel control repair. We also estimate that repairs will cost about \$10,000 per engine. Based on these figures, we estimate the cost of this AD on U.S. operators to be \$525,587 per year.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

- 2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2015-12-04, Amendment 39-18177 (80 FR 34534, June 17, 2015) (“AD 2015-12-04”), and adding the following new AD:

**Honeywell International Inc.:** Docket No. FAA-2006-23706; Directorate Identifier 2006-NE-03-AD.

#### **(a) Comments Due Date**

The FAA must receive comments on this AD action by [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

This AD replaces AD 2015-12-04.

**(c) Applicability**

This AD applies to all Honeywell International Inc. (Honeywell) TPE331-1, -2, -2UA, -3U, -3UW, -5, -5A, -5AB, -5B, -6, -6A, -10, -10AV, -10GP, -10GT, -10P, -10R, -10T, -10U, -10UA, -10UF, -10UG, -10UGR, -10UR, -11U, -12JR, -12UA, -12UAR, and -12UHR turboprop engines with Woodward fuel control unit (FCU) assemblies with Honeywell part numbers (P/Ns) as listed in Table 1 to paragraph (c) of this AD, installed.

**Table 1 to Paragraph (c) – Affected FCU Assembly P/Ns**

<b>Group #</b>	<b>Engine</b>	<b>FCU Assembly P/Ns</b>
1	TPE331-1, -2, and -2UA	P/N 869199-13, -20, -21, -22, -23, -24, -25, -26, -27, -28, -29, -31, -32, -33, -34, and -35
2	TPE331-1, -2, and -2UA	P/N 869199-9, -10, -11, -12, -14, -16, -17, and -18
3	TPE331-3U, -3UW, -5, -5A, -5AB, -5B, -6, -6A, -10AV, -10GP, -10GT, -10P, and -10T	P/N 893561-7, -8, -9, -10, -11, -14, -15, -16, -20, -26, -27, -29; and P/N 897770-1, -3, -7, -9, -10, -11, -12, -14, -15, -16, -25, -26, and -28
4	TPE331-3U, -3UW, -5, -5B, -6, -6A, and -10T	P/N 893561-4, -5, -12, -13; and P/N 897770-5, -8, and -13
5	TPE331-10, -10R, -10U, -10UA, -10UF, -10UG, -10UGR, -10UR, -11U, -12JR, -12UA, -12UAR, and -12UHR	P/N 897375-2, -3, -4, -5, -8, -9, -10, -11, -12, -13, -14, -15, -16, -17, -19, -21, -24, -25, -26, -27; and P/N 897780-1, -2, -3, -4, -5, -6, -7, -8, -9, -10, -11, -14, -15, -16, -17, -18, -19, -20, -21, -22, -23, -24, -25, -26, -27, -30, -32, -34, -36, -37, -38; and P/N 893561-17, -18, and -19

**(d) Unsafe Condition**

This AD was prompted by reports of loss of the fuel control drive, leading to engine overspeed and engine failure. We are issuing this AD to prevent failure of the fuel control drive, damage to the engine, and damage to the airplane.

**(e) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(1) Inspection of Engines with FCU Assembly P/Ns in Groups 2 or 4**

For FCU assembly P/Ns in Groups 2 or 4 listed in Table 1 to paragraph (c) of this AD:

(i) At the next scheduled inspection of the fuel control drive, or within 500 hours-in-service (HIS) after the effective date of this AD, whichever occurs first, inspect the fuel control drive for wear.

(ii) Thereafter, re-inspect the fuel control drive within every 1,000 HIS since-last-inspection (SLI).

**(2) Inspection of Engines with FCU Assembly P/Ns in Groups 1, 3, or 5**

For FCU assembly P/Ns in Groups 1, 3, or 5 listed in Table 1 to paragraph (c) of this AD:

(i) If on the effective date of this AD the FCU assembly has 900 or more HIS SLI, inspect the fuel control drive for wear within 100 HIS after the effective date of this AD.

(ii) If on the effective date of this AD the FCU assembly has fewer than 900 HIS SLI, inspect the fuel control drive for wear within 1,000 HIS.

(iii) Thereafter, re-inspect the fuel control drive for wear within every 1,000 HIS SLI.

**(3) Airplane Operating Procedures**

Within 60 days after the effective date of this AD, insert the information in Figure 1 to paragraph (e) of this AD, into the Emergency Procedures Section of the applicable Airplane Flight Manual (AFM), Pilot Operating Handbook (POH), or the Manufacturer's Operating Manual (MOM).



### Figure 1 to Paragraph (e) – Airplane Operating Procedures

**NOTE**

Procedures in dotted line boxes are immediate action items to be performed by the pilot / flight crew.

**RAPID, UNCOMMANDED ACCELERATION DURING  
ENGINE START (Propeller ON Start Locks)**

- Engine Start – Abort Immediately – Shut Down Affected Engine in accordance with Emergency Procedures.

**WARNING**

Do not attempt to re-start engine. Report to maintenance.

**ON GROUND or IN FLIGHT:**

**RAPID, UNCOMMANDED INCREASE IN RPM, TORQUE,  
FUEL FLOW AND/OR TURBINE TEMPERATURE  
(Propeller OFF Start Locks)**

- Identify Malfunctioning Engine (multi-engine airplanes) – Cross check for high torque, RPM, fuel flow, and turbine temperatures.
- Shut Down Affected Engine in accordance with Emergency Procedures.

**WARNING**

Never retard the power levers aft of flight idle in flight or on the ground.

**WARNING**

Do not attempt an engine re-start. Report to maintenance.

#### **(f) Optional Terminating Action**

Replacing the affected FCU assembly with an FAA-approved FCU assembly not listed in this AD by P/N is terminating action for the initial and repetitive inspections required by this AD, and for inserting the information in Figure 1 to paragraph (e) of this AD into the AFM, POH, and MOM.

#### **(g) Definitions**

For the purposes of this AD:

(1) The “fuel control drive” is a series of mating splines located between the fuel pump and fuel control governor.

(2) The fuel control drive consists of four drive splines: the fuel pump internal spline, the fuel control external “quill shaft” spline, and the stub shaft internal and external splines.

**(h) Alternative Methods of Compliance (AMOCs)**

The Manager, Los Angeles Aircraft Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request.

**(i) Related Information**

(1) For more information about this AD, contact Joseph Costa, Aerospace Engineer, Los Angeles Aircraft Certification Office, FAA, Transport Airplane Directorate, 3960 Paramount Blvd., Lakewood, CA 90712-4137; phone: 562-627-5246; fax: 562-627-5210; email: joseph.costa@faa.gov.

(2) Information pertaining to operating recommendations for affected engines after a fuel control drive failure is contained in Honeywell Operating Information Letter (OIL) OI331-12R6, dated May 26, 2009, for multi-engine airplanes; and OIL OI331-18R4, dated May 26, 2009, for single-engine airplanes. Information on fuel control drive inspection can be found in Section 72-00-00 of the applicable TPE331 maintenance manuals. These Honeywell OILs and the TPE331 maintenance manuals can be obtained from Honeywell using the contact information in paragraph (i)(3) of this proposed AD.

(3) For service information identified in this AD, contact Honeywell International Inc., 111 S. 34th Street, Phoenix, AZ 85034-2802; phone: 800-601-3099; Internet: <https://myaerospace.honeywell.com/wps/portal>.

(4) You may view this service information at the FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA. For information on the availability of this material at the FAA, call 781-238-7125.

Issued in Burlington, Massachusetts, on March 15, 2016.

Ann C. Mollica,  
Acting Manager, Engine and Propeller Directorate,  
Aircraft Certification Service.

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